

WHAT IS CLAIMED IS:

1. A load drive control system having a control apparatus,
and a drive apparatus which performs driving of a load
based on a control signal supplied from said control
5 apparatus, wherein

said control apparatus comprises means for producing a
power supply enabling control signal and supplying said
power supply enabling control signal to a signal input
point in said drive apparatus, and

10 said drive apparatus comprises a drive signal output
section for outputting a drive signal which controls
driving of said load, and a power supply enabling control
section that receives said power supply enabling control
signal from said signal input point and that is adapted to
15 set an internal circuit thereof in a conducting condition
to thereby enable supplying of electrical power from a
drive power source to said drive apparatus while said power
supply enabling control signal is being supplied from said
control apparatus and is adapted to set said internal
20 circuit in a non-conducting condition to thereby interrupt
said supplying of electrical power when said power supply
enabling control signal ceases to be supplied from said
control apparatus.

2. A load drive control system according to claim 1,
wherein

said control apparatus produces said power supply
enabling control signal as a drive control signal,

5 said drive signal output section of said drive
apparatus receives said drive control signal from said
signal input point and produces said drive signal in
accordance with said drive control signal, and

10 said power supply enabling control section of said
drive apparatus interrupts said supplying of electrical
power to said drive signal output section when outputting
of said drive control signal from said control apparatus is
halted.

15 3. A load drive control system according to claim 2,
wherein

said drive signal output section of said control
apparatus is adapted to operate on an input signal applied
thereto which varies between a common ground potential
20 level of said control apparatus and drive apparatus and a
fixedly predetermined voltage level, and

said control apparatus comprises a high-side switching
element which is coupled to said signal input point in said
drive apparatus, an internal DC power supply for producing
25 a supply voltage at said predetermined voltage level, and

means for generating said drive control signal by repetitively connecting and disconnecting said signal input point in said drive apparatus to and from said internal DC power supply.

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4. A load drive control system according to claim 3, wherein said control apparatus produces said control signal as a PWM (Pulse Width Modulation) signal, and said power supply enabling control section of said drive apparatus

10 comprises

an integrator circuit for integrating said PWM signal to thereby produce an integrated voltage,

a first switching element coupled to said integrator circuit, for being set in a conducting condition when said
15 integrated voltage is being derived from said PWM signal and set in a non-conducting condition when supplying of said PWM signal is terminated, and

a second switching element, connected to said drive power source and controlled by said first switching element
20 for supplying electrical power from said drive power source to said drive signal output section while said first switching element is in the conducting condition and for interrupting said supplying of electrical power while said first switching element is in the non-conducting condition.

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5. A load drive control system having a control apparatus, and a drive apparatus which performs driving of a load based on a control signal supplied from said control apparatus, wherein

5 said control apparatus comprises a low-side switching element coupled to a signal input point within said drive apparatus, and means for driving said low-side switching element to output a power supply enabling control signal by repetitively connecting and disconnecting said signal input
10 point to and from a common ground potential of said control apparatus and drive apparatus,

wherein said drive apparatus comprises

a drive signal output section for outputting a drive signal to said load, said drive signal output section
15 adapted to operate on an input signal which varies between a common ground potential level of said control apparatus and drive apparatus and a first predetermined voltage level,

waiting status detection means coupled to said signal input point, for selectively generating an internal control
20 signal in accordance with whether aid power supply enabling control signal is being supplied, and

a power supply enabling control section coupled to said signal input point, controlled by said power supply enabling control signal for selectively enabling and
25 interrupting a supply of DC electrical power at a second

voltage level from a drive power source to said drive signal output section,

wherein said control apparatus comprises signal level lowering means, controlled by said internal control signal
5 for setting a maximum level of said input signal of the drive signal output section at said first voltage level while said power supply enabling control signal is being supplied.

10 6. A load drive control system according to claim 5, wherein said control apparatus produces said power supply enabling control signal as a drive control signal for controlling driving of said load, with said drive control signal constituting said input signal of said drive signal
15 output section,

said drive signal output section of said drive apparatus outputs said drive signal in accordance with said drive control signal, and

said power supply enabling control section of said
20 drive apparatus interrupts said supplying of electrical power from said drive source to said drive signal output section when supplying of said drive control signal is terminated.

7. A load drive control system according to claim 6,
wherein said control apparatus outputs said drive control
signal as a PWM (Pulse Width Modulation) signal, wherein
said power supply enabling control section of said drive
5 apparatus comprises

a first switching element connected to said drive
power source and having a control input terminal thereof
coupled to said signal input point, adapted to be thereby
set from a non-conducting condition to a conducting
10 condition when said PWM signal begins to be supplied from
said control apparatus and thereby beginning to supply
electrical power to said drive signal output section,

a second switching element, adapted to be set in a
conducting condition when said first switching element
15 enters the conducting condition and to be thereafter held
in said conducting condition until supplying of said PWM
signal is terminated, said second switching element coupled
to control said first switching element such as to maintain
said first switching element continuously in the
20 conducting condition while said PWM signal is being
supplied,

and wherein said signal level lowering means comprises
a zener diode having a cathode thereof connected to
said signal input point, and

a third switching element connected to an anode of said zener diode, controlled to be set in the conducting condition together with said first switching element, for thereby establishing a conducting path through said zener
5 diode to said ground potential.

8. A load drive control system according to claim 7, wherein said second switching element is controlled by said internal control signal for being held continuously in the
10 conducting condition while said PWM control signal is being supplied.

9. A load drive control system according to claim 7, wherein a control input of said third switching element is
15 coupled to said first switching element for thereby being connected to said second voltage level while said first switching element is in the conducting condition, said third switching element being thereby held continuously in the conducting condition while said PWM control signal is
20 being supplied.